

NOTIFICATION OF ADDENDUM

ADDENDUM NO. 1

DATED 5/01/2015

Control	0008-16-036
Project	STP 1502(095)MM
Highway	IH 20
County	TARRANT

Ladies/Gentlemen:

Attached please find an addendum on the above captioned project. Included in the attachment is an addendum notification which details the changes and the respective proposal pages which were added and/or changed.

Except for new bid insert pages, it is unnecessary to return any of the pages attached.

Bid insert pages must be returned with the bid proposal submitted to the Department, unless your firm is submitting a bid using a computer print out. The computer print out must be changed to reflect the new bid item information.

Contractors and material suppliers, etc. who have previously been furnished informational proposals are not being furnished a copy of the addendum. If you have a subcontractor on the above project, please advise them of this addendum. Acknowledgment of this addendum is not requested if your company has been issued a proposal stamped "This Proposal Issued for Informational Purposes."

You are required to acknowledge receipt of this addendum on the Addendum Acknowledgement form contained in your bid proposal by placing a mark in the box next to the respective addendum.

Failure to Acknowledge receipt of this addendum in your bid proposal will result in your bid not being read.

SUBJECT: PLANS AND PROPOSAL ADDENDUMS

PROJECT: STP 1502(095)MM

CONTROL: 0008-16-036

COUNTY: TARRANT

LETTING: 05/06/2015

REFERENCE NO: 0501

PROPOSAL ADDENDUMS

_ PROPOSAL COVER

X BID INSERTS (SH. NO.: 7-15, 8-15 thru 15-15)

X GENERAL NOTES (SH. NO.: BB)

X SPEC LIST (SH. NO.: 3-3)

_ SPECIAL PROVISIONS:

ADDED:

DELETED:

X SPECIAL SPECIFICATIONS:

ADDED: 6001

DELETED:

X OTHER: See changes below

DESCRIPTION OF ABOVE CHANGES

(INCLUDING PLANS SHEET CHANGES)

BID INSERTS: SHEET 7-15 - Added Items 545-6003 & 545-6005.

Revised Item 545-6001 quantity.

SHEET 15-15 - Added Item 6001-6001.

SHEETS 8-15 thru 15-15 shifted due to changes above.

GENERAL NOTES: SHEET BB - New sheet added due to Item 6001 notes.

SPEC LIST: SHEET 3-3: Added SS 6001.

PLAN SHEETS: Replaced sheets 3, 6A, 10M, 11A, 11B & 11C due to changes above.

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	100	6002		PREPARING ROW DOLLARS and CENTS	STA	15.200	1
	100	6009		PREPARING ROW (TREE) (6" TO 24" DIA) DOLLARS and CENTS	EA	3.000	2
	110	6001		EXCAVATION (ROADWAY) DOLLARS and CENTS	CY	2,960.000	3
	132	6008		EMBANKMENT (FINAL)(DENS CONT)(TY D) DOLLARS and CENTS	CY	29.000	4
	162	6002		BLOCK SODDING DOLLARS and CENTS	SY	1,627.000	5
	166	6001		FERTILIZER DOLLARS and CENTS	AC	.340	6
	168	6001		VEGETATIVE WATERING DOLLARS and CENTS	MG	57.000	7
	247	6060		FL BS (CMP IN PLC)(TY E GR 4)(FNAL POS) DOLLARS and CENTS	CY	423.000	8
	260	6002		LIME (HYDRATED LIME (SLURRY)) DOLLARS and CENTS	TON	50.000	9
	260	6027		LIME TRT (EXST MATL)(8") DOLLARS and CENTS	SY	2,993.000	10
	275	6001		CEMENT DOLLARS and CENTS	TON	16.000	11

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	275	6018		CEMENT TREAT (NEW BASE)(36") DOLLARS and CENTS	SY	549.000	12
	310	6005		PRIME COAT (AE-P) DOLLARS and CENTS	GAL	599.000	13
	316	6009		ASPH (A-R TYPE II OR III) DOLLARS and CENTS	GAL	2,021.000	14
	316	6075		AGGR(TY-B GR-3S SAC-A) DOLLARS and CENTS	CY	38.700	15
	316	6224		AGGR(TY-PB GR-4 SAC-B) DOLLARS and CENTS	CY	32.000	16
	340	6011		D-GR HMA(SQ) TY-B PG64-22 DOLLARS and CENTS	TON	718.000	17
	340	6135		D-GR HMA(SQ) TY-D SAC-A PG76-22 DOLLARS and CENTS	TON	317.000	18
	354	6021		PLANE ASPH CONC PAV(0" TO 2") DOLLARS and CENTS	SY	2,192.000	19
	360	6002		CONC PVMT (CONT REINF - CRCP) (8") DOLLARS and CENTS	SY	2,964.000	20
	360	6027		CURB (TYPE II) DOLLARS and CENTS	LF	1,847.000	21
	403	6001		TEMPORARY SPL SHORING DOLLARS and CENTS	SF	1,112.000	22

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	416	6003		DRILL SHAFT (30 IN) DOLLARS and CENTS	LF	516.000	23
	416	6004		DRILL SHAFT (36 IN) DOLLARS and CENTS	LF	345.000	24
	416	6029		DRILL SHAFT (RDWY ILL POLE) (30 IN) DOLLARS and CENTS	LF	24.000	25
	416	6034		DRILL SHAFT (TRF SIG POLE) (48 IN) DOLLARS and CENTS	LF	132.000	26
	420	6020		CL C CONC (ABUT)(HPC)(EXTEND) DOLLARS and CENTS	CY	79.400	27
	420	6026		CL C CONC (BENT)(HPC) DOLLARS and CENTS	CY	148.700	28
	420	6066		CL C CONC (RAIL FOUNDATION) DOLLARS and CENTS	CY	35.000	29
	420	6139		CL C CONC (VEH DEFL WALL)(HPC) DOLLARS and CENTS	CY	355.800	30
	422	6004		REINF CONC SLAB (EXTEND SLAB)(HPC) DOLLARS and CENTS	SF	18,560.400	31
	422	6014		BRIDGE SIDEWALK (HPC) DOLLARS and CENTS	SF	4,640.400	32
	422	6016		APPROACH SLAB (HPC) DOLLARS and CENTS	CY	114.800	33

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	425	6038		PRESTR CONC GIRDER (TX46) DOLLARS and CENTS	LF	2,964.000	34
	428	6001		PENETRATING CONCRETE SURFACE TREAT- MENT DOLLARS and CENTS	SY	526.000	35
	429	6005		CONC STR REPAIR(DECK REP (FULL DEPTH)) DOLLARS and CENTS	SF	12.000	36
	432	6006		RIPRAP (CONC)(CL B) DOLLARS and CENTS	CY	1.500	37
	432	6008		RIPRAP (CONC)(CL B)(RR8&RR9) DOLLARS and CENTS	CY	9.500	38
	438	6001		CLEANING AND SEALING EXISTING JOINTS DOLLARS and CENTS	LF	136.000	39
	442	6008		STR STEEL (MISCELLANEOUS BRIDGE) DOLLARS and CENTS	LB	910.000	40
	450	6024		RAIL (TY SSTR)(HPC) DOLLARS and CENTS	LF	874.000	41
	450	6035		RAIL (TY C402)(HPC) DOLLARS and CENTS	LF	624.000	42
	454	6004		ARMOR JOINT (SEALED) DOLLARS and CENTS	LF	96.000	43

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	454	6008		HEADER TYPE EXPANSION JOINT DOLLARS and CENTS	CF	15.900	44
	500	6001		MOBILIZATION DOLLARS and CENTS	LS	1.000	45
	502	6001		BARRICADES, SIGNS AND TRAFFIC HAN- DLING DOLLARS and CENTS	MO	17.000	46
	506	6040	001	BIODEG EROSN CONT LOGS (INSTL) (8") DOLLARS and CENTS	LF	151.000	47
	506	6043	001	BIODEG EROSN CONT LOGS (REMOVE) DOLLARS and CENTS	LF	151.000	48
	512	6017		PORT CTB (DES SOURCE)(F-SHAPE)(TY 1) DOLLARS and CENTS	LF	1,140.000	49
	512	6020		PORT CTB (DES SOURCE)(F-SHAPE)(TY 4) DOLLARS and CENTS	LF	40.000	50
	512	6021		PORT CTB (DES SOURCE)(LOW PROF)(TY 1) DOLLARS and CENTS	LF	980.000	51
	512	6022		PORT CTB (DES SOURCE)(LOW PROF)(TY 2) DOLLARS and CENTS	LF	40.000	52
	512	6029		PORT CTB (MOVE)(F-SHAPE)(TY 1) DOLLARS and CENTS	LF	1,020.000	53

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	512	6032		PORT CTB (MOVE)(F-SHAPE)(TY 4) DOLLARS and CENTS	LF	10.000	54
	512	6041		PORT CTB (STKPL)(F-SHAPE)(TY 1) DOLLARS and CENTS	LF	1,140.000	55
	512	6044		PORT CTB (STKPL)(F-SHAPE)(TY 4) DOLLARS and CENTS	LF	40.000	56
	512	6045		PORT CTB (STKPL)(LOW PROF)(TY 1) DOLLARS and CENTS	LF	980.000	57
	512	6046		PORT CTB (STKPL)(LOW PROF)(TY 2) DOLLARS and CENTS	LF	40.000	58
	531	6003		CONC SIDEWALKS (6") DOLLARS and CENTS	SY	541.000	59
	531	6004		CURB RAMPS (TY 1) DOLLARS and CENTS	EA	7.000	60
	531	6015		CURB RAMPS (TY 20) DOLLARS and CENTS	EA	1.000	61
	531	6017		CURB RAMPS (TY 22) DOLLARS and CENTS	EA	3.000	62
	540	6001		MTL W-BEAM GD FEN (TIM POST) DOLLARS and CENTS	LF	82.000	63
	540	6005		TERMINAL ANCHOR SECTION DOLLARS and CENTS	EA	2.000	64

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	540	6007		MTL BEAM GD FEN TRANS (TL2) DOLLARS and CENTS	EA	2.000	65
	542	6001		REMOVE METAL BEAM GUARD FENCE DOLLARS and CENTS	LF	137.000	66
	542	6002		REMOVE TERMINAL ANCHOR SECTION DOLLARS and CENTS	EA	4.000	67
	542	6004		RM MTL BM GD FENCE TRANS (THRIE- BEAM) DOLLARS and CENTS	EA	36.000	68
	545	6001		CRASH CUSH ATTEN (INSTL) DOLLARS and CENTS	EA	4.000	69
	545	6003		CRASH CUSH ATTEN (MOVE & RESET) DOLLARS and CENTS	EA	2.000	70
	545	6005		CRASH CUSH ATTEN (REMOVE) DOLLARS and CENTS	EA	2.000	71
	610	6009		REMOVE RD IL ASM (TRANS-BASE) DOLLARS and CENTS	EA	4.000	72
	610	6213		IN RD IL (TY SA) 40T-4-4 (250W EQ) LED DOLLARS and CENTS	EA	3.000	73
	618	6023		CONDT (PVC) (SCH 40) (2") DOLLARS and CENTS	LF	507.000	74

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	618	6029		CONDT (PVC) (SCH 40) (3") DOLLARS and CENTS	LF	359.000	75
	618	6030		CONDT (PVC) (SCH 40) (3") (BORE) DOLLARS and CENTS	LF	317.000	76
	618	6033		CONDT (PVC) (SCH 40) (4") DOLLARS and CENTS	LF	438.000	77
	618	6034		CONDT (PVC) (SCH 40) (4") (BORE) DOLLARS and CENTS	LF	617.000	78
	618	6070		CONDT (RM) (2") DOLLARS and CENTS	LF	21.000	79
	618	6074		CONDT (RM) (3") DOLLARS and CENTS	LF	1,044.000	80
	620	6007		ELEC CONDR (NO.8) BARE DOLLARS and CENTS	LF	471.000	81
	620	6008		ELEC CONDR (NO.8) INSULATED DOLLARS and CENTS	LF	2,764.000	82
	620	6009		ELEC CONDR (NO.6) BARE DOLLARS and CENTS	LF	2,850.000	83
	620	6010		ELEC CONDR (NO.6) INSULATED DOLLARS and CENTS	LF	57.000	84
	621	6007		TRAY CABLE (4 CONDR) (8 AWG) DOLLARS and CENTS	LF	1,539.000	85

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	624	6010		GROUND BOX TY D (162922)W/APRON DOLLARS and CENTS	EA	13.000	86
	624	6028		REMOVE GROUND BOX DOLLARS and CENTS	EA	15.000	87
	628	6115		ELC SRV TY D 120/240 060(NS)AL(E)PS(U) DOLLARS and CENTS	EA	1.000	88
	644	6064		IN BRIDGE MNT CLEARANCE SGN ASSM(TY N) DOLLARS and CENTS	EA	2.000	89
	644	6071		RELOCATE SM RD SN SUP&AM TY TWT DOLLARS and CENTS	EA	1.000	90
	644	6076		REMOVE SM RD SN SUP&AM DOLLARS and CENTS	EA	7.000	91
	662	6060		WK ZN PAV MRK REMOV (W)4"(BRK) DOLLARS and CENTS	LF	737.000	92
	662	6063		WK ZN PAV MRK REMOV (W)4"(SLD) DOLLARS and CENTS	LF	864.000	93
	662	6080		WK ZN PAV MRK REMOV (W)(ARROW) DOLLARS and CENTS	EA	27.000	94
	662	6081		WK ZN PAV MRK REMOV (W)(DBL ARROW) DOLLARS and CENTS	EA	8.000	95

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	666	6006		REFL PAV MRK TY I (W)4"(DOT)(100MIL) DOLLARS and CENTS	LF	95.000	96
	666	6030		REFL PAV MRK TY I (W)8"(DOT)(100MIL) DOLLARS and CENTS	LF	820.000	97
	666	6036		REFL PAV MRK TY I (W)8"(SLD)(100MIL) DOLLARS and CENTS	LF	1,149.000	98
	666	6042		REFL PAV MRK TY I (W)12"(SLD)(100MIL) DOLLARS and CENTS	LF	843.000	99
	666	6048		REFL PAV MRK TY I (W)24"(SLD)(100MIL) DOLLARS and CENTS	LF	360.000	100
	666	6054		REFL PAV MRK TY I (W)(ARROW)(100MIL) DOLLARS and CENTS	EA	20.000	101
	666	6057		REFL PAV MRK TY I(W)(DBL ARROW)(100MIL) DOLLARS and CENTS	EA	2.000	102
	666	6078		REFL PAV MRK TY I (W)(WORD)(100MIL) DOLLARS and CENTS	EA	18.000	103
	666	6099		REF PAV MRK TY I(W)18"(YLD TRI)(100MIL) DOLLARS and CENTS	EA	15.000	104
	666	6167		REFL PAV MRK TY II (W) 4" (BRK) DOLLARS and CENTS	LF	3,006.000	105

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	666	6168		REFL PAV MRK TY II (W) 4" (DOT) DOLLARS and CENTS	LF	95.000	106
	666	6170		REFL PAV MRK TY II (W) 4" (SLD) DOLLARS and CENTS	LF	2,807.000	107
	666	6176		REFL PAV MRK TY II (W) 8" (DOT) DOLLARS and CENTS	LF	820.000	108
	666	6178		REFL PAV MRK TY II (W) 8" (SLD) DOLLARS and CENTS	LF	1,149.000	109
	666	6180		REFL PAV MRK TY II (W) 12" (SLD) DOLLARS and CENTS	LF	843.000	110
	666	6182		REFL PAV MRK TY II (W) 24" (SLD) DOLLARS and CENTS	LF	360.000	111
	666	6184		REFL PAV MRK TY II (W) (ARROW) DOLLARS and CENTS	EA	20.000	112
	666	6185		REFL PAV MRK TY II (W) (DBL ARROW) DOLLARS and CENTS	EA	2.000	113
	666	6192		REFL PAV MRK TY II (W) (WORD) DOLLARS and CENTS	EA	18.000	114
	666	6198		REFL PAV MRK TY II (W) 18" (YLD TRI) DOLLARS and CENTS	EA	15.000	115
	666	6207		REFL PAV MRK TY II (Y) 4" (SLD) DOLLARS and CENTS	LF	2,861.000	116

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	666	6300		RE PM W/RET REQ TY I (W)4"(BRK)(100MIL) DOLLARS and CENTS	LF	3,006.000	117
	666	6303		RE PM W/RET REQ TY I (W)4"(SLD)(100MIL) DOLLARS and CENTS	LF	3,829.000	118
	666	6315		RE PM W/RET REQ TY I (Y)4"(SLD)(100MIL) DOLLARS and CENTS	LF	2,861.000	119
	672	6010		REFL PAV MRKR TY II-C-R DOLLARS and CENTS	EA	73.000	120
	677	6001		ELIM EXT PAV MRK & MRKS (4") DOLLARS and CENTS	LF	64.000	121
	677	6008		ELIM EXT PAV MRK & MRKS (ARROW) DOLLARS and CENTS	EA	4.000	122
	677	6012		ELIM EXT PAV MRK & MRKS (WORD) DOLLARS and CENTS	EA	3.000	123
	678	6001		PAV SURF PREP FOR MRK (4") DOLLARS and CENTS	LF	9,791.000	124
	678	6004		PAV SURF PREP FOR MRK (8") DOLLARS and CENTS	LF	1,969.000	125
	678	6006		PAV SURF PREP FOR MRK (12") DOLLARS and CENTS	LF	843.000	126
	678	6008		PAV SURF PREP FOR MRK (24") DOLLARS and CENTS	LF	360.000	127

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	678	6009		PAV SURF PREP FOR MRK (ARROW) DOLLARS and CENTS	EA	20.000	128
	678	6010		PAV SURF PREP FOR MRK (DBL ARROW) DOLLARS and CENTS	EA	2.000	129
	678	6016		PAV SURF PREP FOR MRK (WORD) DOLLARS and CENTS	EA	18.000	130
	678	6022		PAV SURF PREP FOR MRK (18")(YLD TRI) DOLLARS and CENTS	EA	15.000	131
	680	6002		INSTALL HWY TRF SIG (ISOLATED) DOLLARS and CENTS	EA	1.000	132
	680	6004		REMOVING TRAFFIC SIGNALS DOLLARS and CENTS	EA	1.000	133
	681	6001		TEMP TRAF SIGNALS DOLLARS and CENTS	EA	1.000	134
	682	6001		VEH SIG SEC (12")LED(GRN) DOLLARS and CENTS	EA	20.000	135
	682	6002		VEH SIG SEC (12")LED(GRN ARW) DOLLARS and CENTS	EA	8.000	136
	682	6003		VEH SIG SEC (12")LED(YEL) DOLLARS and CENTS	EA	20.000	137
	682	6004		VEH SIG SEC (12")LED(YEL ARW) DOLLARS and CENTS	EA	6.000	138

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	682	6005		VEH SIG SEC (12")LED(RED) DOLLARS and CENTS	EA	20.000	139
	682	6006		VEH SIG SEC (12")LED(RED ARW) DOLLARS and CENTS	EA	6.000	140
	682	6018		PED SIG SEC (LED)(COUNTDOWN) DOLLARS and CENTS	EA	12.000	141
	682	6023		BACK PLATE (12")(3 SEC) DOLLARS and CENTS	EA	24.000	142
	682	6024		BACK PLATE (12")(4 SEC) DOLLARS and CENTS	EA	2.000	143
	684	6033		TRF SIG CBL (TY A)(14 AWG)(7 CONDR) DOLLARS and CENTS	LF	5,615.000	144
	684	6042		TRF SIG CBL (TY A)(14 AWG)(16 CONDR) DOLLARS and CENTS	LF	2,743.000	145
	684	6079		TRF SIG CBL (TY C)(12 AWG)(2 CONDR) DOLLARS and CENTS	LF	5,561.000	146
	686	6055		INS TRF SIG PL AM(S)1 ARM(50')LUM DOLLARS and CENTS	EA	2.000	147
	686	6059		INS TRF SIG PL AM(S)1 ARM(55')LUM DOLLARS and CENTS	EA	2.000	148
	686	6063		INS TRF SIG PL AM(S)1 ARM(60')LUM DOLLARS and CENTS	EA	1.000	149

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	686	6067		INS TRF SIG PL AM(S)1 ARM(65')LUM DOLLARS and CENTS	EA	1.000	150
	687	6001		PED POLE ASSEMBLY DOLLARS and CENTS	EA	9.000	151
	688	6001		PED DETECT PUSH BUTTON (APS) DOLLARS and CENTS	EA	12.000	152
	688	6003		PED DETECTOR CONTROLLER UNIT DOLLARS and CENTS	EA	1.000	153
	6001	6001		PORTABLE CHANGEABLE MESSAGE SIGN DOLLARS and CENTS	DAY	700.000	154
	6045	6001		INSTALL OF (RADD) VEHICLE DETECTORS DOLLARS and CENTS	EA	6.000	155
	6046	6001		INSTALL OF (RPD) VEHICLE DETECTORS DOLLARS and CENTS	EA	2.000	156
	6078	6001		CONCRETE GROUND BOX TY AS DOLLARS and CENTS	EA	2.000	157

Project Number: STP 1502(095) MM

Sheet A

County: Tarrant

Control: 0008-16-036

Highway: IH 20

**** Specification Data ****

Basis of Estimate

Item	Description	Rate	Unit
168	Vegetative Watering	169,400 gal./acre	MG.
260	Lime (Hydrated, Commercial Or Quicklime)(Slry)	150 lb./cy.	Ton
275	Cement (New Base)(Road-Mixed) (For Type E, Gr. 4)	75 lb./cy.	ton
310	Asph Mat'l (AE-P, or EC-30) (Subgrade)(Priming)	0.2 gal./sq. yd.*	gal.
340	Hot Mix (All Types)	115 lb./((sq. yd.-in.))	ton

* Based On 50% Asphalt Residue.

** Non-Pay, for Contractor's Information Only.

Compaction Requirements for Base Courses:

(Percent Of Density As Determined By Compaction Ratio Test TEX-113-E)

ITEM	MATERIAL	COURSE	MIN DENSITY
247	Flex Base	All	100 %
275	Cement Treat.	All	95 %

Surface Treatment Data:

Two Course

Asph A-R Ty II or Ty III

Rate 1st Crse: 0.25 gal./sq. yd. (on existing pavement)

2nd Crse: 0.30 gal./sq. yd.

General Notes

Sheet A

County: Tarrant**Control:** 0008-16-036**Highway:** IH 20

Aggr Type B (1st Course)
Grade 3 S (1st Course)
Rate 1 cu. yd./95 sq. yd. (1st Course)

Aggr Type PB (2nd Course)
Grade 4 (2nd Course)
Rate 1 cu. yd./115 sq. yd. (2nd Course)

Note: The rates of asphalt and aggregate application are for estimating purposes only and may be varied as directed.

Special Notes:

Calculating, Recording and Reporting Test Data - Use appropriate TxDOT Excel templates to calculate and record all test data. These forms are available on the TxDOT website at <http://www.txdot.gov/inside-txdot/forms-publications/consultants-contractors/forms/site-manager.html> under the "Site Manager Forms" heading. Submit test results by email or CD within 24 hours of test completion.

Single lane closures, except as otherwise shown in the plans, will be restricted to off-peak hours as defined in the following table:

Peak Hours		Off-Peak Hours	
6 to 9 AM Monday through Friday	3 to 7 PM Monday through Friday	9 AM to 3 PM and 7 PM to 6 AM Monday through Friday	All day Saturday and Sunday

Work that requires closure of multiple travel lanes in the same direction, except as otherwise shown in the plans, will be performed at night between the hours of 9 PM and 6 AM.

Existing storm sewers and utilities are shown from the best available information. Verify the location of all underground facilities prior to starting work.

For dimensions of right of way not shown on the plans, see right of way map on file at the TxDOT District Office.

County: Tarrant

Control: 0008-16-036

Highway: IH 20

Provide all-weather surface for temporary ingress and egress to adjacent property, as directed. Materials, labor, equipment and incidentals necessary to provide temporary ingress and egress will not be paid for directly, but will be subsidiary to the various bid items.

Where necessary, the governing slopes indicated herein may be varied from the limits shown, to the extent approved.

Take care that existing curb and curb and gutter is not discolored or damaged during construction operations. In the event of discoloration or damage, clean or repair as directed.

Provide temporary drain openings at all low points or other drainage structures, as required, at the Contractor's expense.

Remove any obstructions to existing drainage due to the contractor's operations, as required, at the Contractor's expense.

Install all required concrete riprap flumes immediately following the construction of ditches in which they are to be placed. In addition, apply all erosion control measures as shown on the plans or as directed, immediately following construction of channels to their required line, grade, and section.

Item 2. Instructions to Bidders

Proposals with a bid of more than 363 working days for the substantial completion of the project will be considered non-responsive.

Item 5. Control of the Work

When supplementary bridge plans, shop drawings, shop details, erection drawings, working drawings, forming plans, or other drawings are required, the drawings will be prepared and submitted on sheets 8-1/2 by 11 inches, 17 by 22 inches, or full size drawings reduced to half scale if completely legible. If, in the opinion of the Engineer, the drawings are not completely legible, they will be prepared and submitted on sheets 22 by 34 inches, with a 1-1/2 inch left margin, and 1/2 inch top, right, and bottom margins.

All sheets submitted will have a title in the lower right hand corner. The title must include the sheet index data shown on the lower right corner of the project plans, name of the structure or element or stream, sheet numbering for the shop drawings, name of the fabricator and the name of the Contractor.

Prior to contract letting, bidders may obtain a free computer diskette or a computerized transfer of files (from the Engineer's office) that contains the earthwork information in ASCII format,

plain text files. If copies of the actual cross-sections are requested, in addition to, or instead of the diskette, they will be available at the Engineers office for borrowing by copying companies for the purpose of making copies for the bidder, at the bidder's expense.

Item 7. Legal Relations and Responsibilities

Do not initiate activities in a project specific location (PSL) associated with a U.S. Army Corps of Engineers (USACE) permit area that has not been previously evaluated by the USACE as part of the permit review of this project. Such activities include, but are not limited to haul roads, equipment staging areas, borrow and disposal sites. "Associated" as defined here means materials are delivered to or from the PSL. The permit area includes all waters of the U.S. or associated wetlands affected by activities associated with this project. Special restrictions may be required for such work. The contractor will be responsible for all consultations with the USACE regarding activities, including project specific locations (PSLs) that have not been previously evaluated by the USACE. Provide the Department with a copy of all consultations or approvals from the USACE prior to initiating activities.

The Contractor may proceed with activities in PSLs that do not affect a USACE permit area if a self determination has been made that the PSL is non-jurisdictional or proper USACE clearances have been obtained in jurisdictional areas or have been previously evaluated by the USACE as part of the permit review of this project. The contractor is solely responsible for documenting any determinations that their activities do not affect a USACE permit area. Maintain copies of these determinations for review by the Department or any regulatory agency.

Document and coordinate with the USACE, if required, prior to any excavation hauled from or embankment hauled into a USACE permit area by either (1) or (2) below.

- (1) Restricted Use of Materials for Previously Evaluated Permit Areas.** Document both the project specific location (PSL) and its authorization. Maintain copies for review by the Department or any regulatory agency. When an area within the project limits has been evaluated by the USACE as part of the permit process for this project:
 - a. Suitable excavation of required material in the areas shown on the plans and cross sections as specified in Item 110 is used for permanent or temporary fill (Item 132, Embankment) within a USACE permit area;
 - b. Suitable embankment (Item 132) from within the USACE permit area is used as fill within a USACE evaluated area; and,
 - c. Unsuitable excavation or excess excavation ["Waste"] (Item 110) that is disposed of at a location approved by the Engineer within a USACE evaluated area.
- (2) Contractor Materials from Areas Other than Previously Evaluated Areas.** Provide the Department with a copy of all USACE coordination or approvals prior to initiating any activities for an area within the project limits that has not been

- evaluated by the USACE or for any off right of way locations used for the following, but not limited to haul roads, equipment staging areas, borrow and disposal sites:
- a. Item 132, Embankment, used for temporary or permanent fill within a USACE permit area; and,
 - b. Unsuitable excavation or excess excavation [“Waste”] (Item 110, Excavation) that is disposed of outside a USACE evaluated area.

The total area disturbed for this project is 0.27 acres. The disturbed area in this project, all project locations in the Contract, and the Contractor project specific locations (PSLs), within 1 mile of the project limits, for the Contract will further establish the authorization requirements for storm water discharges. The Department will obtain an authorization to discharge storm water from the Texas Commission on Environmental Quality (TCEQ) for the construction activities shown on the plans. The Contractor is to obtain required authorization from the TCEQ for Contractor PSLs for construction support activities on or off the right of way. When the total area disturbed in the Contract and PSLs within 1 mile of the project limits exceeds 5 acres, provide a copy of the Contractor NOI for PSLs on the right of way to the Engineer and to the local government that operates a separate storm sewer system.

Item 8. Prosecution and Progress

Working days will be computed and charged in accordance with Section 8.3.1.1, ‘Five-Day Workweek.’

The number of working days for final acceptance will be 363 working days after the substantial completion of the project.

Item 100. Preparing Right of Way

Measurement for this item will be along the centerline of the project with the limits of measurements as shown on the plans.

Removal of existing concrete pavement will be in accordance with Item 104, “Removing Concrete” except that this work will not be paid for directly, but will be subsidiary to Item 100, “Preparing Right of Way.”

~~Item 104. Removing Concrete~~

~~When associated with a structure to be removed, removal of riprap as required, approach slabs, and shoulder drains are to be included in the unit price bid for Item 496, “Removing Structures.”~~

Item 110. Excavation

Review proposed waste sites to determine if any site is located in a “Base Floodplain” or “Floodway” as defined by the Federal Emergency Management Agency (FEMA).

If waste material from this project is placed in a base floodplain as defined by FEMA, a permit will have to be obtained from the local community responsible for enforcing National Flood Insurance Program (NFIP) regulations. The Contractor is responsible for ensuring that the owner of the property receiving the waste has obtained the necessary permit.

Items 110 & 132. Excavation, and Embankment

Moderate sulfate levels are those defined from 3,001 PPM to 7,000 PPM. Treat these soils with lime at the full 150 lb./cu. yd. rate or cement at the full 125 lb./cu. yd. rate. Do not split the rates to ensure complete reaction and mitigation of sulfate heaves. Allow the mixture to mellow for 7 days to provide for complete reaction.

High sulfate levels are not allowed within the treatment and surrounding areas as defined above.

Test soils for soluble sulfates in accordance with Test Method Tex-145 and Tex-146-E.

Treat moderate sulfate or excavate high sulfate areas identified above and other subgrade areas that may be identified during construction as having moderate to high sulfate concentrations to a depth of one foot below and laterally to one foot outside the proposed treatment limits. Treatment of the moderate level material will be paid for under Item 260, “Lime Treatment (Road Mixed)” or Item 275, “Cement Treatment (Road Mixed).” Removal of the high level material will be measured and paid for in accordance with Item 110, “Excavation” and replacement with suitable material will be measured and paid for in accordance with Item 132, “Embankment.”

Any excavated sulfate-laden material will be acceptable for use in fill areas. Do not place within previously specified section boundaries of subgrade to be treated with either lime or cement.

Off-Site Borrow Sources. In addition to meeting pertinent specification requirements, test off-site borrow sources for sulfate content. Test soils for soluble sulfates in accordance with Test Method Tex-145 and Tex-146-E and provide documentation that supports compliance with previously stated requirements. The Engineer will perform additional testing for sulfates of this material upon delivery to the project. Only material that is placed within one foot vertically or laterally of subgrade treatment will require testing for sulfates. Remove and replace failing material (sulfate concentrations >7,000 PPM by dry weight).

Item 132. Embankment

Do not provide Type B embankment material with a Plasticity Index (PI) higher than 35.

When embankment is placed as a bridge header bank, test each lift for compliance with density requirements, near the center of each travel lane at the following locations:

1. At the “beginning of bridge” or “end of bridge” station (if abutment is on retaining wall, location may be adjusted by not more than 5 feet.)
2. At 25-foot intervals for a distance of 150 feet in advance of the “beginning of bridge” station.
3. At 25-foot intervals for a distance of 150 feet after the “end of bridge” station.

Density tests must be conducted by a department-certified independent testing laboratory. Results of tests will be furnished to TxDOT within 24 hours after testing; a final copy of all test reports must be signed and sealed by a Professional Engineer in the State of Texas and furnished within five (5) working days after testing. Areas which do not meet minimum density requirements will be removed, re-compacted, and re-tested for compliance at the contractor’s entire expense. Testing and reporting of test results will not be paid for directly, but will be subsidiary to this item.

Construct embankments for bridge header banks to final subgrade elevation prior to excavation for abutment caps and placement of foundation course at approach slabs. Payment for structural excavation and/or excavation for placement of foundation course will not be paid for directly, but will be subsidiary to the pertinent bid items.

At all locations where guardrail is shown to flare, widen the embankment as necessary to accommodate the guardrail.

Item 162. Sodding for Erosion Control

Furnish and place Bermudagrass sod.

Item 168. Vegetative Watering

Furnish and install an approved rain gauge at the project site, as directed. Furnishing and installation of the rain gauge will not be paid for directly, but will be subsidiary to Item 168.

Apply vegetative watering for an establishment period of thirteen weeks following application of seed or installation of sod, at a rate of 1/2 inch of water depth per week (approximately 13,030 gallons per acre). During the first four weeks after seeding, apply water twice per week, on non-consecutive days, each at half the weekly application rate. For the remainder of the establishment period, apply vegetative watering once per week during the months of January through June or September through December, at the weekly application rate; apply watering

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twice per week, on non-consecutive days during the months of July and August, each at one-half the weekly application rate.

Average weekly rainfall rates for the District are:

January—0.39"	April—0.86"	July—0.48"	October—0.68"
February—0.46"	May—1.00"	August—0.47"	November—0.46"
March—0.48"	June—0.63"	September—0.74"	December—0.37"

Item 247. Flexible Base

(TY E, GR 4) Use this item for the foundation course under the approach slabs and other locations shown on the plans. Furnish aggregate conforming to the following requirements:

Gradation:

<u>Retained on</u> <u>Sieve Size</u>	<u>Percent (%)</u> <u>by Weight</u>
1-3/4 in.	0-5
No. 4	30-75
No. 40	65-85
Plasticity Index (PI)	15 max.
Liquid Limit	45 max.
Wet Ball Mill	50 max.
Wet Ball Mill, %	20 max.
Increase Passing the No. 40	

Place material in two or more equal lifts unless otherwise directed.

Do not add field sand to modify the final material to meet the requirements.

Cement treat in accordance with Item 275.

Item 260. Lime Treatment (Road-Mixed)

Apply lime by the "slurry placement" method. Allow the mixture to mellow for a minimum of 4 days after initial mixing. If moderate sulfates are present, or for other extenuating circumstances as determined by the Engineer, allow the mixture to mellow for 7 days after initial mixing.

Except as noted below, treat the raw subgrade to a depth of 8".

Item 275. Cement Treatment (Road-Mixed)

Treat flexible base for bridge approach slab foundation course with 2.4% cement by weight.

If the Contractor elects to plant-mix cement with the foundation course, mix in accordance with Articles 276.3, "Equipment" and 276.4.1, "Mixing." Place the mixture in accordance with Article 276.4.2, "Placing," and compact in accordance with Article 276.4.3, "Compaction."

Item 301. Asphalt Antistripping Agent

Furnish a liquid antistripping agent unless otherwise directed.

Item 310. Prime Coat

Provide an AE-P or EC-30 for this Item. Apply AE-P as specified in Item 314, "Emulsified Asphalt Treatment."

Item 316. Surface Treatments

Furnish aggregate meeting a Surface Aggregate Classification rating of "A" for the following roadways in this project: Bridge deck at Bryant Irvin Rd.

Provide a minimum of 3 pneumatic rollers as specified under Article 316.3.3, "Rollers."

The asphalt application season for this project is May 1st to August 31st.

Item 340. Dense-Graded Hot-Mix Asphalt (Small Quantity)

In Table 1, the Micro-Deval abrasion test is not required.

RAP aggregate must meet the requirements of Table 1.

Provide aggregate with a Surface Aggregate Classification (SAC) value of A.

For the underlayment on the roadway portion (non-Bridge), provide a PG64-22 asphalt for the underlayment course.

For the surface course on the bridge, Provide a PG 76-22 asphalt for the surface course.

Use the following notes when using Warm Mix Asphalt (WMA):

Notify the District Pavement Design Engineer (Andrew V. Kissig, P.E., CFM; Andy.Kissig@txdot.gov) with the following information:

1. Project CSJ,
2. pavement layer/location (surface, base, shoulder level-up, other) with the

- corresponding thickness(es),
- 3. mix type (Type A, B, C, D, or F),
- 4. approximate tonnage used for each application, and
- 5. WMA additive process used from the TxDOT Material Producer List available at <http://ftp.dot.state.tx.us/pub/txdot-info/cmd/mpl/wma.pdf>.

Use any approved "Chemical Additive" for all mix applications. Use an approved system to measure and produce a recorded printout of the amount of WMA additive going into the mix. Delivery temperature shall be a maximum of 235° F. Delivery and roll out temperatures will be modified by the Supplier and accepted by the Engineer. All work related to WMA product additives is subsidiary to this item.

An authorized representative of the WMA product additive supplier shall be present onsite during the first day of asphalt placement.

RAP and RAS are not permitted in any surface mixes on this project.

Use only the Superpave Gyratory Compactor (SGC) to design the mixture.

Use the Boil Test, Test Procedure Tex-530-C, and provide only mixes that provide that produce zero percent (0%) stripping for design verification and during production.

Item 360. Concrete Pavement

Furnish a CSS-1P with greater than 50% asphalt residue for the tack coat on this project.

When using the Hardy Chair-Lok to support reinforcing steel, chair spacing may be increased to 1.67 sq. yd. per chair, placed in a diamond or square pattern. Do not exceed 60" longitudinal spacing.

Item 420. Concrete Structures

Provide weepholes at bridge ends in the wingwalls as directed.

Concrete for "Interior Bents" will be paid for as a plan quantity.

The district survey department will provide two bronze ROW Markers per bridge to be cast into the bridge concrete at a location determined by the engineer or the district survey department.

Item 421. Hydraulic Cement Concrete

For Class P and S Concrete Only: For concrete plants equipped with 2 aggregate bins or no calibrated metering system, blend manufactured and natural sand at the aggregate source only.

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For concrete plants equipped with a minimum of 3 bins and a calibrated metering system, blending of the separate sands on-site is permitted to meet gradation and AIR requirements.

Strength/cylinder testing equipment must be equipped with a printer for an electronic print out of all test results.

Air entrainment requirements are waived for all classes of concrete except all Class S and all Class P Concrete.

Concrete will not be rejected for low air content. Adjustment to the dosage of air entrainment will be as directed or allowed by the Engineer.

Include the approved mix design number on each delivery ticket.

Contractor personnel performing job-control (QC) testing on concrete must be ACI certified and maintain certification. Provide a copy of all personnel certification papers to the Engineer at the preconstruction meeting. The Engineer may require the Contractor's testers to provide the certification papers upon arrival and before testing at the job site. Certified testers will be required to participate with certified TxDOT personnel annually for slump (Tex-415-A), air content (Tex-416-A), compression testing (Tex-418-A), and capping cylinders (Tex-450-A) to retain their certification on TxDOT projects.

Furnish a hard copy of all testing equipment calibration reports at the preconstruction meeting when non-TxDOT equipment is used to test concrete. Furnish updated reports as equipment is calibrated through the project contract. The calibration frequency will match TxDOT's and will apply for each piece of equipment as follows:

- Slump Cone - Annual
- Air Meter - Every 3 months
- Compression Tester - Annual
- Beam breaker - Annual

The Engineer may allow the use of local commercial laboratories under contract to provide these services. The Commercial Laboratory must fulfill requirements listed above prior to performing any work.

Item 427. Surface Finishes for Concrete

Unless otherwise noted, provide a surface area **I** with a rub finish on the bridge(s).

Item 428. Penetrating Concrete Surface Treatment

Provide a Class II surface treatment to any areas shown on the detail sheets.

Item 432. Riprap

Provide weep holes as directed.

The quantities for riprap at the location indicated may be varied to the extent necessary to ensure proper functioning for the purpose intended.

All concrete riprap will be 5" (.42') in thickness, unless otherwise shown on the plans, and must be reinforced.

An 8 inch (.67 ft.) by 18 inch (1.5 ft.) toe wall is required at the exposed edges of all concrete riprap, unless otherwise directed.

When synthetic fiber reinforcement concrete option is chosen provide the following:

- At all construction joints (vertical or horizontal) provide #3 bars 24 in. long and placed on 18 in. centers along joint length. Bars should be centered in concrete cross section.
- At all toe wall locations #3 L-bars will be required on 18 in. centers with a length 2 times the depth of the toe wall. Place three #3 bars the length of the toe wall and equally spaced on the L-bars.

Welded Wire Reinforcement (WWR) may be used for construction joint and toe wall reinforcing with the approval of the Engineer.

Item 450. Railing

Provide a relief to the backside of the SSTR traffic rail to the bridges and retaining walls as shown in the standard.

Item 454. Bridge Expansion Joints

For header-type expansion joints refer to the following TxDOT website for the approved systems:

<http://www.txdot.gov/inside-txdot/division/bridge/approved-systems/expansion-joints.html>

Item 496. Removing Structures

Notify the Texas Department of State Health Services (DSHS) prior to demolition or renovation of bridges or other structures, using DSHS Form APB#5, "Demolition/Renovation Notification Form". The form and instructions may be found on the DSHS Asbestos Programs Branch web page at <http://www.dshs.state.tx.us/asbestos/notification.shtm>. The DSHS notification form must be hand-delivered or mailed to (received at) the DSHS Austin office at least ten working days (10) days prior to commencing demolition or renovation. Fax or e-mail notifications will not be accepted. For projects with multiple bridges, a single notification, with a listing of all bridges or structures to be demolished or renovated and the expected start dates of their demolition or renovation (the start date is defined as the first date of visible demolition activities). Notify the DSHS Regional or Local inspector of all start date changes. The expected project completion date may be used as the "end" date.

Removal of riprap as required, approach slabs and shoulder drains to be included in the unit price bid.

When required by the plans, partial or complete removal of a structure for staged construction shall be accomplished in a manner which does not cause damage to the remainder of the structure or its supporting members. Submit the procedure for removal of superstructure or substructure in writing or plan drawing for approval prior to implementation.

Item 502. Barricades, Signs, and Traffic Handling

The contractor force account 'safety contingency' that has been established for this project is intended to be utilized for work zone enhancements to improve the effectiveness of the traffic control plan that could typically not be foreseen in the project's planning and design stage. These enhancements will be mutually agreed upon by the Engineer and the Contractor's responsible person based on weekly (or more frequent) traffic management reviews on the project. The Engineer may choose to use existing bid items if it does not slow the implementation of enhancement.

Permanent signs may be installed when construction in an area is complete and they will not conflict with the traffic control plan for the remainder of the job.

Existing signs are to remain as long as they do not interfere with construction and they do not conflict with the traffic control plan.

Any sign not detailed in the plans but called for in the layout will be as shown in the current "Standard Highway Sign Designs for Texas".

When traffic is obstructed, arrange warning devices in accordance with the latest edition of the "Texas Manual on Uniform Traffic Control Devices".

Cover or remove any work zone signs when work or condition referenced is not occurring.

Item 504. Field Office and Laboratory

Furnish the following structures for this project:

<u>Type</u>	<u>No.</u>
Field Office and Lab (Ty. B)	1

Field office will require at least a 3' by 3' landing on the outside of each exit door and a concrete landing at the bottom of exit stairs. The concrete landing will be the width of the stairs and extend at least 4' in front of the bottom step.

Furnish a copier and facsimile meeting the requirements of DMS-10101, "Computer Equipment".

Furnish the following for the Field Office structure:

<u>Item</u>	<u>No.</u>
Desktop Microcomputer	1
Laptop Microcomputer	1
Printer	1
Internet Service	1

Laptop Microcomputers will have an Intel i3 (1.5 GHz) processor, or better.

Integrated printer/copier/scanner/fax units will be permitted.

Item 506. Temporary Erosion, Sedimentation, and Environmental Controls

The SW3P for this project will consist of using the following items as directed:

- Erosion Control Logs

Item 512. Portable Concrete Traffic Barrier

Traffic barrier for this item is in stockpile at the interchange of IH 20 and US 287 in Tarrant County. ***Applies only to Low Profile Barrier.***

Furnish barrier in compliance with Concrete Safety Barrier (CSB), Single-Slope Concrete Barrier (SSCB) or Low Profile Concrete Barrier (LPCB) standards as shown on the plans.

Class H Concrete furnished for this Item must have a minimum 28 day compressive strength of 3,600 psi.

Provide the hardware assemblies to join barrier sections, including barrier from stockpile. Furnish Type J connections for Concrete Safety Barrier. Low Profile PCTB requires a 1-1/4" x 2'-2" threaded rod, two 1-1/4" hex nuts, and two standard USS washers, grade 5, for each section.

Connection hardware will remain the property of the State upon completion of the project and will not be paid for directly, but is subsidiary to Item 512, "Portable Concrete Traffic Barrier." Deliver hardware to the location specified.

Delineate all barrier in accordance with Barricade and Warning Sign (BC) Standards. Barrier delineation will not be paid for directly, but will be subsidiary to this Item.

Replace any traffic barrier which, in the opinion of the Engineer, is damaged by the traveling public to the extent it is no longer serviceable. Use traffic barrier from the designated stockpile site. The Contractor will be paid to remove and replace the traffic barrier damaged by the traveling public. Return damaged traffic barrier to the stockpile site located at the interchange of IH 20 and US 287 in Tarrant County.

Items 530 And 531. Intersections, Driveways and Turnouts, and Sidewalks

The furnishing and installation of the sand cushion in proposed sidewalks, sidewalk ramps, and driveways will not be paid for directly but will be subsidiary to this bid item.

Item 540. Metal Beam Guard Fence

The locations and lengths of guard fence shown on the plans are approximate. Actual lengths and locations are to be determined in the field.

The tops of timber posts will be domed. Beveled tops will not be permitted for timber or steel posts.

When holes for timber posts are drilled below bottom of proposed grade, backfill the excessive depth with an acceptable sand. The furnishing and installation of the sand backfill will not be paid for directly but will be subsidiary to this Item.

When guardrail posts are placed in a finished surface, backfill the top 4 inches with an asphaltic material, domed to carry water away from the posts or as shown on the plans. The furnishing and installation of the asphaltic material backfill will not be paid for directly but will be subsidiary to this Item.

Item 542. Removing Metal Beam Guard Fence

Remove existing metal beam guard fence only when authorized.
Stockpile all metal beam guard fence removed from this project at 5501 McCart Avenue, Fort Worth TX 76133.

General Notes – Signs

It is the intent of these plans to provide for a complete system of specified signs. All work, material and services not expressly called for in the specifications or not shown on the plans, which may be necessary for completion of the work, shall be performed, furnished and installed. Before acceptance and final payment is made, the contractor shall clean, remove rubbish from the site of work, restore property in accordance with article 7.12 of the standard specifications, and have the site of work in a neat and presentable condition throughout. No extra compensation will be allowed for fulfilling the requirements stated above.

Item 8. Prosecution and Progress

Equipment will not be accepted for delivery or any payment made until the equipment, materials lists and shop drawings have been approved by the Engineer. Approval by the Engineer does not relieve the Contractor of his responsibilities to meet the requirements of the specifications and plans.

Both overhead and underground utilities exist in the vicinity of this project. The exact location of underground utilities is not known. Contact the Texas Excavation Safety Systems (TESS) or DIG TESS at 1-800-344-8377 or the area utility companies for exact locations at least 48 hours prior to commencing any work that might affect present utilities.

Personal vehicles of the contractor's employees shall not be parked within the right of way at any time.

The contractor shall coordinate the sequence of construction and traffic control plan with any adjacent construction projects to ensure the uninterrupted flow of traffic.

Material furnished by the contractor shall be new, un-depreciated stock.
No traffic will be allowed directly under any work being performed on overhead sign structures.
All materials and equipment (when not in use) shall be stored or parked 30' or more off the edge of pavement.

Item 643.

Sign identification decals shall be subsidiary to the pertinent bid items.

Item 644. Small Roadside Sign Supports and Assemblies

Supply shop drawings for all signs in this contract requiring fabrication to the Area Engineer for review and approval. Fabricate and install signs only after approval of the shop drawings by the Fort Worth District Traffic Operations section.

Before installing new signs on existing supports, plumb the existing sign posts using shims if necessary. Where posts must be replaced, the lengths of the replacement posts for ground mounted signs are approximate. Verify the post lengths to meet the existing field conditions prior to ordering these materials. Conform to the minimum mounting heights shown in the plans. Labor and materials for this work shall be considered subsidiary to Items 644.

Installation and /or removal of signs located near any overhead or underground electrical lines shall be accomplished using established industry and utility safety practices. The contractor shall consult with the appropriate utility company prior to beginning such work.

For back-to-back sign mountings, adjust punch spacing for signs mounted back-to-back as required when different than shown on the standard detail sheets. Any required adjustment is considered subsidiary to this Item.

Removal of existing concrete foundations that are to be abandoned shall be 2 FT below finish grade.

General Notes – Traffic Signals

Please contact the Traffic Operations at 817-370-3664 in the Fort Worth District so that a representative from the Fort Worth District Signal Shop may attend the pre-construction/work order meeting.

Item 5. Control of Work

For all working drawing submittal requirements, the Engineer may allow electronic in accordance with Item 5.2.

The locations of all signal related items, pavement markings, signing, etc. are diagrammatic only and may be shifted to accommodate field conditions and/or as directed by Engineer.

Powder coating of signal poles will not be paid for or maintained by the State and will be the financial responsibility of the City. The City will need to coordinate with the contractor while the signal poles are being manufactured as to when they may be prepared for coating. **Poles, Pedestrian Poles, Mast Arms, and Luminaire Arms all receive a powder coat finish, color to be selected by the City.** The contractor is not responsible for the cost of the powder coating.

Item 416. Drilled Shaft Foundations

The Contractor will calculate the vertical signal head clearance before placing any traffic signal pole foundation. Use established safety practices when working near utilities. Consult with the appropriate utilities before beginning work. Notify the Engineer immediately of utility conflicts overhead or underground.

Notify Traffic Operations so that they may verify all clearances of the installation plan before concrete is poured and inform the contractor of any additional information or required or changes necessary.

Item 628. Electrical Services

TxDOT will make application to the Electric Utility Company for service contact Traffic Operations to make arrangements.

Before installing any electrical service, consult with the appropriate utility company before beginning work and verify all metering equipment requirements with the provider have been met. **The Contractor shall provide a commercial grade, meter base with by-pass switch.**

Time-charge suspension due to the availability of power shall not be considered unless all arrangements for power have been submitted within five (5) days after the project work has begun.

Item 680. Highway Traffic Signals

MATERIALS: This project shall consist of the installation of all of the materials necessary for complete signal systems as follows:

- **CONSTRUCTION**

Provide controller assemblies that meet the requirements of the Department Material Specifications (DMS) and provide prequalified controller assemblies from the Department's Material Producers List (MPL)

Where work requires the removal of power from the controller and cabinet assembly, erect temporary stop sign panels. Remove the stop sign panels after the traffic signals are in operation.

The Contractor shall contact the City of Fort Worth's Signal Shop at 817-360-6364 to set up a suitable time to pick up the City supplied material.

Place the traffic signal into operation after all required striping is complete and all conflicting signing is removed.

Project Inspection:

- For electrical project inspection, the Area Office and Chief Inspector should contact Traffic Operations in advance of needed inspections.
- At the time of the final electrical inspection, the Traffic Operations office will create a punch list of discrepancies to be corrected and repaired before the signal is put into flash mode. Upon the satisfactory completion of repairs or corrections, the signals shall operate in a flashing mode for two or three days prior to the beginning of the test period for full signal operation.

Signal FLASH: Turn-On:

- Notify Traffic Operations, at least one (1) week prior to flash.
- Traffic Operations, signal technicians must be present when the signals are placed in full operation. Unless otherwise directed, place the signal in full operation between 9:00 A.M. - 12:00 (NOON) on Tuesdays, or Wednesdays only. Signal technicians from Traffic Operations must be present when the signals are placed in full operation.

In accordance with Item 680.3.1.8 Test Period for Signals: The signals shall operate continuously for a minimum of 30 calendar days in a satisfactory manner. Equipment failures during these 30 days will cause the test period to start over.

TxDOT Signal Shop will not assume responsibility for the maintenance of the traffic signals until the project is completed and accepted.

Item 681. Temporary Traffic Signals

Operate, maintain, and reconfigure existing traffic signals as shown in the plans and specifications.

Maintain and operate the existing traffic signals for the duration of the Contract as defined in Item 681.3.1.

Reconfigure existing traffic signals in accordance with the plans, and within the requirements of Item 681.3.2 or as directed.

Item 682. Vehicle and Pedestrian Signal Heads

Traffic signal heads shall be yellow aluminum with 5 inch, black aluminum, vented back plates unless otherwise shown on plans. Signal heads mounted on poles and mast arms shall be level and plumb and aimed as directed. Cover all signal faces until placed in operation.

Item 684. Traffic Signal Cables

All proposed signal cable and number of conductors required shall be as shown on the plans. Terminate all electrical conductors from the controller at the termination block in the signal pole hand hole whether in use or not.

Item 688. Pedestrian Detectors

Accessible Pedestrian Detectors (APS). Provide accessible pedestrian detectors in accordance with DMS-11132, "Accessible Pedestrian Detectors (APS)" unless otherwise noted in the plans.

Contractor to provide a completed Final System Operational check list, completed schematic diagram for pushbutton station locations, and a completed default and field settings sheet as provided in the APS manufacturer's manual.

Item 6045. Radar Advance Detection Devices (RADD)

Furnish, install, establish a connection to each Radar Advance Detection Devices (RADD) and make fully operational. The RADD will be mounted directly onto a mounting assembly fastened to a separate pole, overhead mast-arm or other solid structure. Mounting height of the sensor shall be a maximum of 40 ft. and minimum of 17 ft. 6 in. All heights and locations of sensors will be adjusted in the field in order to achieve the best possible detection. Please contact Traffic Operations for assistance with RADD set up.

Any tools or incidentals needed to accomplish this installation will not be paid for separately, but will be considered subsidiary to this bid Item.

Item 6046. Install of Radar Presence Detection (RPD) Devices

Radar Presence Detection Setup: Install the RPD as directed by the engineer. The signal technicians from the Fort Worth District Signal Shop are responsible for verification of RPD detection zones set by the Contractor. Contact The Fort Worth District Signal Shop at 817-370-6505 to coordinate a suitable meeting time to verify proper locations.

Install and establish a connection to each (RPD) furnished by TxDOT, and make fully operational. Mount RPD as directed by the engineer. All heights and locations of sensors will be adjusted in the field in order to achieve the best possible detection. Please contact Traffic Operations for assistance with RPD set up.

General Notes – Roadway Illumination:

Only materials, with approved product codes or designations, from prequalified producers are accepted on bids. The Construction Division (CST) of the Texas Department of Transportation (TxDOT) maintains the material producers list of approved producer product codes or designations. Use the following website to view this list:

http://www.dot.state.tx.us/business/producer_list.htm

Locate all luminaires, high mast poles, electrical service points, ground boxes and conduit as directed.

Electrical service points may be moved a maximum of 50 feet from the location shown in the plans, with approval. If it is necessary to move a service point more than 50 feet, recalculate the voltage drop for all related circuits.

Mast-arm poles may be moved a maximum of 15 feet along and parallel to the roadway to be illuminated. If a pole is moved more than 5 feet, the location of adjacent poles should also be revised, so as to maintain uniform spacing.

High mast poles may be moved a maximum of 10 feet with approval. If it is necessary to move a high mast pole more than 10 feet in any direction, adjust the location of all adjacent high mast and mast-arm poles.

Furnish one of the following padlocks for service cabinets and safety switch enclosures:

Texas Department of Transportation: Master Lock, Key No. 2195

City of Arlington: Master Lock, Key No. 3252

City of Fort Worth: Master Lock, Key No. 0536

Furnish one padlock for each service assembly enclosure.

Furnish one padlock for each high mast pole. The padlocks for the high mast poles will be the same type as specified for the service pole which supplies power to the high mast pole.

Furnish one padlock for each fused disconnect switch at bridges with U/P luminaires.

Where possible, conduit runs should be straight and placed with a minimum number of bends and/or ground boxes.

If the actual length of conductor in a circuit exceeds the estimated length by more than 75 feet, recalculate the voltage drop for the circuit.

The Contractor's attention is directed to all locations where illumination circuits cross existing sign light, traffic signal, surveillance, or roadway illumination circuits owned by TxDOT the Contractor will be responsible for locating any existing circuits prior to any trenching, foundation drilling or excavation. If any existing circuits are damaged by the Contractor, splice the circuits or repair the conduit and replace the conductor as directed, to ensure proper operation of the system. Complete these temporary repairs as soon as possible after damage occurs. All labor and materials required for the temporary repairs will be at the Contractor's expense. Maintain the temporary repairs until permanent repairs are made.

Permanent repairs shall consist of the replacement of damaged or temporarily repaired conduit, conductor, ground boxes, etc., as directed, and shall be constructed in accordance with the requirements of the appropriate bid items and this project for new construction.

Permanent repairs, including the placement of ground boxes, extensive conduit runs, etc. will be measured and paid for in accordance with the appropriate bid items.

Only one permanent repair per circuit run will be considered for payment.

For access into the existing electrical service or fused disconnect switches at bridges with U/P luminaires, contact the Fort Worth District's Traffic Systems Supervisor (Traffic Signal Shop main phone number: 817-370-6505). Provide at least 72 hours of prior notification.

For modifications to an existing electrical service's branch circuit breakers, use new materials that meet the requirements of the National Electric Code (NEC), Underwriters Laboratories (UL), Canadian Standards Association (CSA), and National Electrical Manufacturer Association (NEMA) and that comply with specifications shown in ED(4)-03 and ED(5)-03.

Item 7. Legal Relations and Responsibilities

Electrical certification for this project will be as per Item 7.19.1.3 of the 2014 Texas Standard Specifications and any special provisions to Item 7.

Item 416. Drilled Shaft Foundations

Install anchor bolts so that high mast reference line is parallel to freeway roadway centerline or as shown on the layout sheets.

Item 610 Roadway Illumination Assemblies

For both transformer and shoe-base type illumination poles, provide double-pole breakaway fuse holder as shown on the Texas Department of Transportation (TxDOT) materials producers list. Category is "Roadway Illumination and Electrical Supplies". Fuse holder is shown on list under Items 610 & 620. Provide 10 amp time delay fuses.

Furnish luminaires rated for operation at 480 volts.

Fabricate steel roadway illumination poles in accordance with TxDOT standards RIP-2011 (Roadway Illumination Poles-2011). Poles fabricated according to RIP-2011 do not require shop drawings.

Alternate designs to RIP-2011 or the use of aluminum to fabricate poles will require the submission of shop drawings electronically.

For instructions on submitting shop drawings electronically go to TxDOT home page, Business with TxDOT, Bridge information, Shop drawings. File is titled: Guide to Electronic Shop Drawing Submittal.

Transport all roadway illumination assemblies removed by the Contractor and retained by the City of Fort Worth to the Fort Worth Maintenance Yard 3200 Yuma St. in Fort Worth, Texas. Contact (Phone [817] 392-6562) before transporting the roadway illumination assemblies. A City of Fort Worth inspector shall be present to see that all removed transformer bases are sufficiently destroyed to prevent their reuse - these shall become the property of the Contractor. These roadway illumination assemblies are to be removed and transported without damage to any of the assemblies. Roadway illumination assemblies will be inspected when they are unloaded at the City of Fort Worth Maintenance Yard 3200 Yuma St. Any damaged lens, luminaire housing, etc., which is not suitable for reuse will become the property of the Contractor and shall be removed immediately.

Item 613. High Mast Illumination Poles

Construct 80 mph high mast poles of heights 100 ft, 125 ft, and 150 ft, according to HMIP-98 standard sheets. Ground sleeves are required for these poles. Elimination of the ground sleeve will not be allowed.

Item 614. High Mast Illumination Assemblies

Install high mast assembly so that reference line is parallel to freeway centerline or as shown on layout sheets. (Also see note to Item 416).

Obstruction lights will **not** be required for this project.

Travelways referred to on HMID standard sheets shall be defined as all main lanes, direct connections, ramp gores and intersections inside the area to be lighted by high mast poles.

In addition to the cord connectors for the Type W power cord specified on the HMID standard sheets for connectors in the base of the high mast pole, the following are also approved: Arrow Hart pin and sleeve watertight connectors, catalog numbers AH330C7W and AH330P7W, or similar Bryant watertight pin and sleeve connectors, UL listed for 480-volt operation.

Supply high mast kits as per DMS (Departmental Material Specification) 11021. Supply high mast fixtures as per DMS-11020. Both high mast kits and high mast fixtures are listed on the TxDOT Material Producer's List, "Roadway Illumination and Electrical Supplies" – Item 614.

Prior to final acceptance field check the illumination intensity using an approved light meter as furnished by Traffic Operations Division (TRF) Roadway Illumination section.

Fabricate high mast ring assemblies in accordance with shop drawings approved by the Department. Electronically submit shop drawings to obtain approval, or use pre-approved standard shop drawings.

For project specific shop drawings, furnish seven sets of drawings of the complete assembly in accordance with Item 441, "Steel Structures". Shop drawings are to be submitted electronically. To be eligible to use pre-approved standard shop drawings, the shop drawing must be submitted and approved by the Department prior to use on the project. Deviation from the pre-approved standard shop drawing will require resubmission of the shop drawings. The Engineer may approve, in writing, the use of updated standard drawings in cases where the standard drawings have been updated and the updated version has been approved by the Department.

For pre-approval and updates to previously approved standard shop drawings, furnish seven sets of drawings of the complete assembly in accordance with Item 441, "Steel Structures" to the Director of Traffic Operations Division, Texas Department of Transportation, 125 East 11th Street, Austin, Texas 78701-2483.

Copies of the standard shop drawings are on file with Traffic Operations Division (TRF), Bridge Division (BRG), and the Materials and Pavements section of Construction Division (CST). Additional shop drawings for high mast illumination assemblies built in accordance with these

drawings are not required. Pre-approved shop drawing manufacturers and assembly model numbers can be found at:

<http://www.dot.state.tx.us/business/materialproducerlist.htm>.

Category is "Roadway Illumination and Electrical Supplies".

72 hours in advance of the raising of the high mast ring, contact the Fort Worth District's Traffic Systems coordinator (Mr. JD Gore (817) 370-6942) so that it can be thoroughly inspected.

Item 616. Performance Testing of Lighting Systems

The Contractor shall provide thirty days' written notice to the engineer of his intent to start the test period for each service point and its related circuits.

Item 618. Conduit

Bed all PVC conduit placed by open cut in field sand as approved.

Conduit for the ground rod at high mast poles shall be schedule 40 PVC.

Conduit bends at roadway illumination assembly foundations will not be paid for directly, but will be considered subsidiary to Item 416.

The fused disconnect switch used for underpass circuits will not be paid for directly, but will be considered subsidiary to the various bid items.

Do not use cast iron junction boxes in concrete traffic barriers and single slope traffic barriers. Use polymer concrete junction boxes instead of the cast iron junction boxes shown on standard sheets CTBI (3), CTBI (4), AND SSCB (4). Mount the junction boxes flush (+ 0", - 1/2") with concrete surface of concrete barrier.

Use materials from prequalified material producers list as shown on the Texas Department of Transportation (TxDOT) materials producers list. Category is "Roadway Illumination and Electrical Supplies."

County: Tarrant

Control: 0008-16-036

Highway: IH 20

The polymer concrete barrier box will not be paid for separately, but will be considered subsidiary to ITEM 618, "CONDUIT".

Where PVC, duct cable, and HDPE conduit 1" and larger is allowed and installed as per TxDOT standards, provide a PVC elbow in place of the galvanized rigid metal elbow required by the Electrical Detail standards. Ensure the PVC elbow is of the same schedule rating as the conduit to which it is connected.

Ensure only a flat, high tensile strength polyester fiber pull tape is used for pulling conductors through the PVC conduit system.

Item 618, 620, 624 & 628. Conduit, Electrical Conductors, Ground Boxes & Electrical Services

Conduit and conductor from the electrical service point to the utility company pole will be measured and paid for as the size and type of conduit and conductors indicated on the plans.

Item 620. Electrical Conductors

For both transformer and shoe-base type illumination poles, provide double-pole breakaway fuse holder as shown on the Texas Department of Transportation (TxDOT) materials producers list. Category is "Roadway Illumination and Electrical Supplies". Fuse holder is shown on list under Items 610 & 620.

Provide 10 amp time delay fuses.

Items 624. Ground Boxes

Upon completion of wiring work within the ground boxes that are not set in roadway pavement, the contractor shall place a 6 inch diameter washer or metallic object (with a minimum surface area of 0.15 square feet) inside each proposed ground box. Payment for this work will not be paid for directly but will be considered subsidiary to Bid Item 624. This is to assist others in locating the ground boxes more readily in the future.

Items 620, 624, & 628. Electrical Conductors, Ground Boxes & Electrical Services.

Attach an identification tag with the circuit identification stamped on the tag to the conductors for each circuit at all junction boxes and ground boxes. Identify the circuit breakers for each circuit at the service box using identification tags for each breaker. Label each circuit as shown on the illumination layouts in the plans. Tags shall be plastic.

Item 628. Electrical Services

The Engineer will make all arrangements for electrical service. Notify the Engineer, in writing, a minimum of 30 days in advance of the need for electrical service.

Contact Oncor at 214-486-5547; the desired service location by street address.

Contact City of Fort Worth to request electrical service

Phone: 817-999-7923; identify the desired service location by street address.

All roadway illumination circuits are 240/480V/3 wire with the roadway luminaires operating at 480V. All roadway illumination circuit breakers are 2-pole.

The concrete riprap pad at electrical service points will not be paid for directly, but will be subsidiary to Item 628.

Place a decal stating "DANGER/HIGH VOLTAGE" on the door of the service assembly enclosure. The size of the decal and lettering shall be as outlined in the current TxDOT electrical detail (ED) standard sheets.

Remove and transport all electrical transformers to the TxDOT district warehouse at 2501 S.W. Loop 820 (IH 20 at McCart St.) in Fort Worth, Texas. Contact Mr. Billy Manning (Phone [817] 370-6942) before transporting the electrical transformers.

General Notes – Pavement Markings:

Item 666. Reflectorized Pavement Markings with Retroreflective Requirements

Collection of retroreflectivity readings using a mobile retroreflectometer is the preferred method. If retroreflectivity readings are collected using a portable or handheld unit, then measurement is defined as a collective average of at least 20 readings taken along a 200-foot test section. A minimum of three measurements will be required per mile of roadway. Measurements collected on a centerline stripe will be averaged separately for stripe in each direction of travel. A TxDOT inspector must witness the calibration and collection of all retro-reflectivity data.

Item 6001. Portable Changeable Message Signs

Provide all portable changeable message signs and arrow panels with a photoelectric device to allow for automatic dimming of operations to approximately 50% of their normal brightness when ambient light drops to approximately five footcandles, and then increase back again for daytime operations.

Four (4) electronic portable changeable message sign unit(s) will be required. Individual or collective use of signs will be required by the Engineer when deemed necessary to supplement the traffic control plan.

Each sign must have programmed in its permanent memory the following 15 messages:

1. Exit Closed Ahead
2. Use Other Routes
3. Right Lane
4. Left Lane
5. Closed Ahead
6. Two Lane
7. Detour Ahead
8. Thru Traffic
9. Prepare To Stop
10. Merging Traffic
11. Expect 15 Minute Delay
12. Max Speed ** MPH
13. Merge Right
14. Merge Left
15. No Exit Next ** Miles

CONTROL : 0008-16-036
PROJECT : STP 1502(095)MM
HIGHWAY : IH 20
COUNTY : TARRANT

TEXAS DEPARTMENT OF TRANSPORTATION

GOVERNING SPECIFICATIONS AND SPECIAL PROVISIONS

ALL SPECIFICATIONS AND SPECIAL PROVISIONS APPLICABLE TO THIS PROJECT
ARE IDENTIFIED AS FOLLOWS:

STANDARD SPECIFICATIONS: ADOPTED BY THE TEXAS DEPARTMENT OF
----- TRANSPORTATION NOVEMBER 1, 2014.
STANDARD SPECIFICATIONS ARE INCORPORATED
INTO THE CONTRACT BY REFERENCE.

ITEMS 1 TO 9 INCL., GENERAL REQUIREMENTS AND COVENANTS
ITEM 100 PREPARING RIGHT OF WAY (104)
ITEM 110 EXCAVATION (132)
ITEM 132 EMBANKMENT (100)(160)(204)(210)(216)(260)(400)
ITEM 162 SODDING FOR EROSION CONTROL (166)(168)
ITEM 166 FERTILIZER (520)
ITEM 168 VEGETATIVE WATERING
ITEM 247 FLEXIBLE BASE (105)(204)(210)(216)(520)
ITEM 260 LIME TREATMENT (ROAD-MIXED) (105)(132)(204)(210)(216)
(247)(300)(310)(520)
ITEM 275 CEMENT TREATMENT (ROAD-MIXED) (132)(204)(210)(216)(247)
(300)(310)(520)
ITEM 310 PRIME COAT (300)(316)
ITEM 316 SEAL COAT (210)(300)(302)
ITEM 340 DENSE-GRADED HOT-MIX ASPHALT (SMALL QUANTITY) (300)(301)
(320)(520)(585)
ITEM 354 PLANING AND TEXTURING PAVEMENT
ITEM 360 CONCRETE PAVEMENT (421)(422)(438)(440)(529)(585)
ITEM 403 TEMPORARY SPECIAL SHORING (410)(411)(423)
ITEM 416 DRILLED SHAFT FOUNDATIONS (405)(420)(421)(423)(440)(448)
ITEM 420 CONCRETE SUBSTRUCTURES (400)(404)(421)(422)(426)(427)
(440)(441)(448)(496)
ITEM 422 CONCRETE SUPERSTRUCTURES (420)(421)(424)(438)(440)(448)
(454)(782)
ITEM 425 PRECAST PRESTRESSED CONCRETE STRUCTURAL MEMBERS (409)
(420)(421)(424)(426)(427)(434)(440)(442)(445)
ITEM 428 PENETRATING CONCRETE SURFACE TREATMENT (427)
ITEM 429 CONCRETE STRUCTURE REPAIR (421)(431)(440)(780)
ITEM 432 RIPRAP (247)(420)(421)(431)(440)
ITEM 438 CLEANING AND SEALING JOINTS

ITEM 442 METAL FOR STRUCTURES (441)(445)(446)(447)(448)
 ITEM 450 RAILING (420)(421)(422)(424)(440)(441)(442)(445)(446)
 (448)
 ITEM 454 BRIDGE EXPANSION JOINTS (429)(442)(785)
 ITEM 500 MOBILIZATION
 ITEM 502 BARRICADES, SIGNS, AND TRAFFIC HANDLING
 ITEM 504 FIELD OFFICE AND LABORATORY
 ITEM 506 TEMPORARY EROSION, SEDIMENTATION, AND ENVIRONMENTAL
 CONTROLS (161)(432)(556)
 ITEM 512 PORTABLE CONCRETE TRAFFIC BARRIER (420)(421)(424)(440)
 (442)
 ITEM 531 SIDEWALKS (104)(360)(420)(421)(440)(530)
 ITEM 540 METAL BEAM GUARD FENCE (421)(441)(445)(529)
 ITEM 542 REMOVING METAL BEAM GUARD FENCE
 ITEM 545 CRASH CUSHION ATTENUATORS (421)
 ITEM 610 ROADWAY ILLUMINATION ASSEMBLIES (416)(421)(432)(441)(442)
 (445)(449)(614)(616)(618)(620)(622)(624)(628)
 ITEM 618 CONDUIT (400)(476)
 ITEM 620 ELECTRICAL CONDUCTORS (610)(628)
 ITEM 621 TRAY CABLE (620)
 ITEM 624 GROUND BOXES (420)(421)(432)(440)(618)(620)
 ITEM 628 ELECTRICAL SERVICES (441)(445)(449)(618)(620)(627)(656)
 ITEM 644 SMALL ROADSIDE SIGN ASSEMBLIES (421)(440)(441)(442)(445)
 (636)(643)(656)
 ITEM 662 WORK ZONE PAVEMENT MARKINGS (666)(668)(672)(677)
 ITEM 666 RETROREFLECTORIZED PAVEMENT MARKINGS (316)(318)(502)(662)
 (677)(678)
 ITEM 672 RAISED PAVEMENT MARKERS (677)(678)
 ITEM 677 ELIMINATING EXISTING PAVEMENT MARKINGS AND MARKERS (300)
 (302)(316)
 ITEM 678 PAVEMENT SURFACE PREPARATION FOR MARKINGS (677)
 ITEM 680 HIGHWAY TRAFFIC SIGNALS (416)(610)(618)(624)(625)(627)
 (628)(636)(656)(682)(684)(686)(688)
 ITEM 681 TEMPORARY TRAFFIC SIGNALS (416)(610)(618)(620)(621)(622)
 (624)(625)(627)(628)(636)(644)(656)(680)(682)(684)(686)
 (687)(688)(690)
 ITEM 682 VEHICLE AND PEDESTRIAN SIGNAL HEADS
 ITEM 684 TRAFFIC SIGNAL CABLES
 ITEM 686 TRAFFIC SIGNAL POLE ASSEMBLIES (STEEL) (416)(421)(441)
 (442)(445)(449)
 ITEM 687 PEDESTAL POLE ASSEMBLIES (445)(449)(656)(682)
 ITEM 688 PEDESTRIAN DETECTORS AND VEHICLE LOOP DETECTORS (618)
 (624)(682)(684)

SPECIAL PROVISIONS: SPECIAL PROVISIONS WILL GOVERN AND TAKE
 ----- PRECEDENCE OVER THE SPECIFICATIONS ENUMERATED
 HEREON WHEREVER IN CONFLICT THEREWITH.

REQUIRED CONTRACT PROVISIONS, FEDERAL-AID CONSTRUCTION CONTRACTS
 (FORM FHWA 1273, MAY, 2012)

WAGE RATES

SPECIAL PROVISION "SCHEDULE OF LIQUIDATED DAMAGES" (000---001)

SPECIAL PROVISION "NONDISCRIMINATION" (000---002)
 SPECIAL PROVISION "CERTIFICATION OF NONDISCRIMINATION IN EMPLOYMENT"
 (000---003)
 SPECIAL PROVISION "NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO
 ENSURE EQUAL EMPLOYMENT OPPORTUNITY" (000---004)
 SPECIAL PROVISION "STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY
 CONSTRUCTION CONTRACT SPECIFICATIONS" (000---005)
 SPECIAL PROVISION "ON-THE-JOB TRAINING PROGRAM" (000---006)
 SPECIAL PROVISION "DISADVANTAGED BUSINESS ENTERPRISE IN FEDERAL AID
 CONTRACTS" (000---007)
 SPECIAL PROVISION "IMPORTANT NOTICE TO CONTRACTORS" (000---010)
 SPECIAL PROVISION TO ITEM 6 (006---001)
 SPECIAL PROVISION TO ITEM 7 (007---001)
 SPECIAL PROVISION TO ITEM 506 (506---001)

SPECIAL SPECIFICATIONS:

 ITEM 6001 PORTABLE CHANGEABLE MESSAGE SIGN
 ITEM 6045 RADAR ADVANCE DETECTION DEVICE (INSTALLATION ONLY)
 ITEM 6046 RADAR PRESENCE DETECTION DEVICE (INSTALLATION ONLY)
 ITEM 6078 CONCRETE GROUND BOXES

GENERAL: THE ABOVE-LISTED SPECIFICATION ITEMS ARE THOSE UNDER WHICH
 ----- PAYMENT IS TO BE MADE. THESE, TOGETHER WITH SUCH OTHER
 PERTINENT ITEMS, IF ANY, AS MAY BE REFERRED TO IN THE ABOVE-
 LISTED SPECIFICATION ITEMS, AND INCLUDING THE SPECIAL
 PROVISIONS LISTED ABOVE, CONSTITUTE THE COMPLETE SPECIFI-
 CATIONS FOR THIS PROJECT.

Special Specification 6001

Portable Changeable Message Sign



1. DESCRIPTION

Furnish, operate, and maintain portable trailer mounted changeable message sign (PCMS) units.

2. MATERIALS

Furnish new or used material in accordance with the requirements of this Item and the details shown on the plans. Provide a self-contained PCMS unit with the following:

- Sign controller
- Changeable Message Sign
- Trailer
- Power source

Paint the exterior surfaces of the power supply housing, supports, trailer, and sign with Federal Orange No. 22246 or Federal Yellow No. 13538 of Federal Standard 595C, except paint the sign face assembly flat black.

2.1. **Sign Controller.** Provide a controller with permanent storage of a minimum of 75 pre-programmed messages. Provide an external input device for random programming and storage of a minimum of 75 additional messages. Provide a controller capable of displaying up to 3 messages sequentially. Provide a controller with adjustable display rates. Enclose sign controller equipment in a lockable enclosure.

2.2. **Changeable Message Sign.** Provide a sign capable of being elevated to at least 7 ft. above the roadway surface from the bottom of the sign. Provide a sign capable of being rotated 360° and secured against movement in any position.

Provide a sign with 3 separate lines of text and 8 characters per line minimum. Provide a minimum 18 in. character height. Provide a 5 × 7 character pixel matrix. Provide a message legibility distance of 600 ft. for nighttime conditions and 800 ft. for normal daylight conditions. Provide for manual and automatic dimming light sources.

The following are descriptions for 3 screen types of PCMS:

- **Character Modular Matrix.** This screen type comprises of character blocks.
- **Continuous Line Matrix.** This screen type uses proportionally spaced fonts for each line of text.
- **Full Matrix.** This screen type uses proportionally spaced fonts, varies the height of characters, and displays simple graphics on the entire sign.

2.3. **Trailer.** Provide a 2 wheel trailer with square top fenders, 4 leveling jacks, and trailer lights. Do not exceed an overall trailer width of 96 in. Shock mount the electronics and sign assembly.

2.4. **Power Source.** Provide a diesel generator, solar powered power source, or both. Provide a backup power source as necessary.

2.5. **Cellular Telephone.** When shown on the plans, provide a cellular telephone connection to communicate with the PCMS unit remotely.

3. CONSTRUCTION

Place or relocate PCMS units as shown on the plans or as directed. The plans will show the number of PCMS units needed, for how many days, and for which construction phases.

Maintain the PCMS units in good working condition. Repair damaged or malfunctioning PCMS units as soon as possible. PCMS units will remain the property of the Contractor.

4. MEASUREMENT

This Item will be measured by each PCMS or by the day used. All PCMS units must be set up on a work area and operational before a calendar day can be considered measurable. When measurement by the day is specified, a day will be measured for each PCMS set up and operational on the worksite.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Portable Changeable Message Sign." This price is full compensation for PCMS units; set up; relocating; removing; replacement parts; batteries (when required); fuel, oil, and oil filters (when required); cellular telephone charges (when required); software; and equipment, materials, tools, labor, and incidentals.